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Employment Rates and Wages of Core-aged Workers in Canada and the United States, 2000 to 2017

by André Bernard and René Morissette, Analytical Studies Branch

This *Economic Insights* article assesses how employment rates and wages of persons aged 25 to 54 evolved in Canada and the United States from 2000 to 2017. The analysis is based on data from Statistics Canada's Labour Force Survey (LFS), and on the U.S. Bureau of Labor Statistics' Current Population Survey (CPS). The study finds that employment rates and real median hourly wages of core-aged workers evolved more favourably in Canada than in the United States during this period.

Introduction

The Canadian and U.S. labour markets have experienced several structural and cyclical changes of a similar nature since 2000. Both countries witnessed a contraction of their information and communication technologies (ICT) sector in the early 2000s, a decline in manufacturing employment and unionization, an expansion of their oil and gas industries during the oil boom of the 2000s, and an adjustment in construction activities during the last recession.

Some of these changes have been of similar magnitudes in both countries. For example, the unionization rate of employees aged 25 to 54 fell by roughly 4 percentage points in Canada and the United States from 2000 to 2017, albeit from different levels (Chart 1). Manufacturing employment declined by about 25% in both countries during that period (Chart 2).

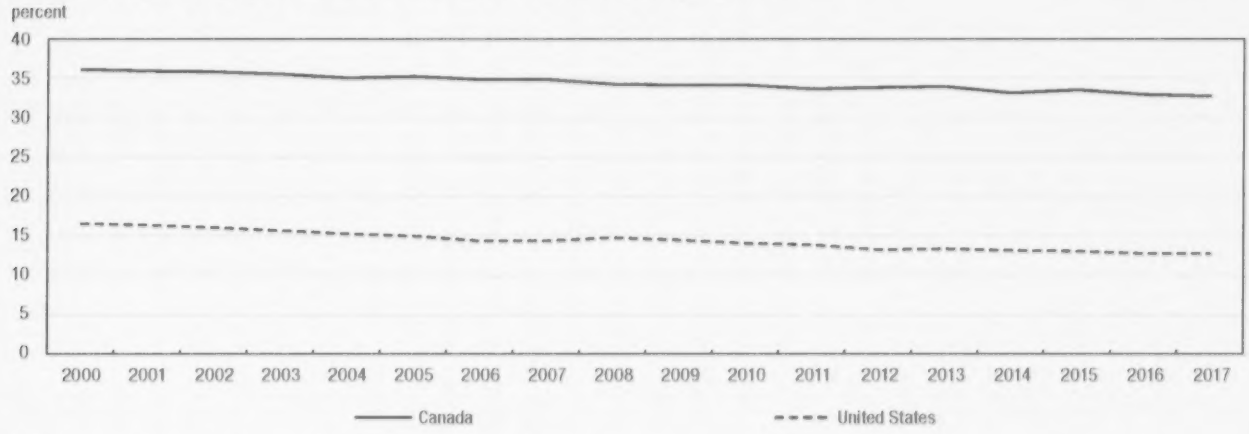
However, the magnitude of other shocks has differed, often substantially. As the last recession unfolded, the housing market and construction industry were more severely impacted in the United States than in Canada. By the first quarter of 2009, housing starts in the United States were down nearly 67% from early 2007 levels, compared with roughly 39% in Canada. Housing starts in Canada rebounded at a faster pace, surpassing pre-recession levels by the third quarter of 2011. In contrast, housing starts in the United States were still below pre-recession levels in 2017.[1]

Another important difference between the two countries is the relatively larger role that the oil and gas sector has played in the Canadian economy. In 2014, oil and gas extraction accounted for 5.9% of gross domestic product (in current dollars) in Canada, compared with 1.9% in the United States.[2] While employment in oil and gas extraction and peripheral activities[3] accounted for 0.6% of total employment in the U.S. that year, it accounted for 1.3% of total employment in Canada. Since oil and gas industries are relatively more important in Canada than they are in the United States, rising and subsequently falling world oil prices may have had more far reaching effects in Canada than in the United States through of a variety of economic spillovers.[4]

For these reasons, employment rates and wages might have evolved differently in the two countries since the early 2000s. Using data from Statistics Canada's Labour Force Survey (LFS) and the U.S. Bureau of Labor Statistics' Current Population Survey (CPS), the study documents movements in employment rates and wages of Canadian and American workers aged 25 to 54. Because wage and employment movements may have differed for highly educated workers and their less educated counterparts, the analysis document these trends for three groups of individuals: (a) those with a high school education or less, (b) those with some post-secondary qualification below a bachelor's degree, (c) those with a bachelor's degree or higher education (henceforth, bachelor's degree). The study covers the 2000-to-2017 period.

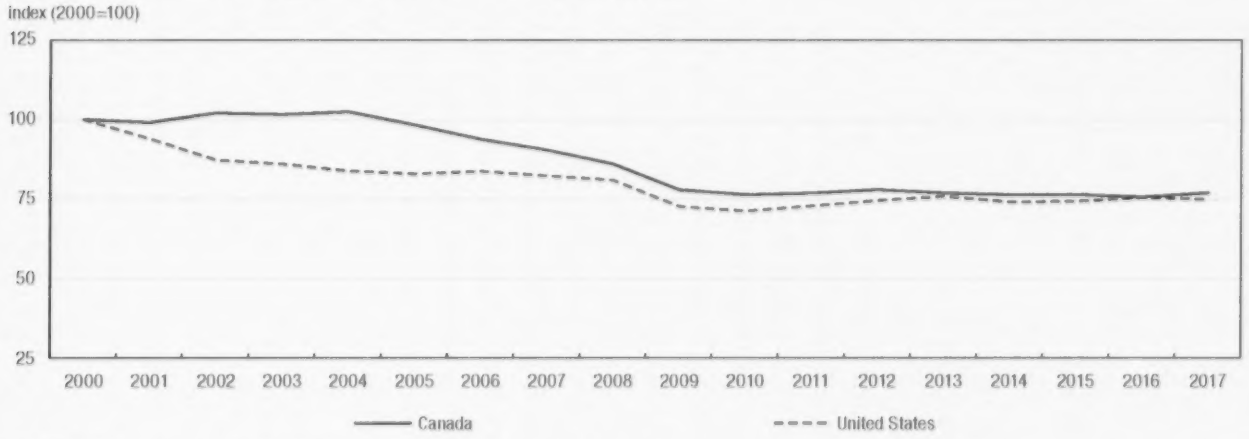
1. Statistics Canada, CANSIM table 027-0051 and U.S. Census Bureau, New Residential Construction.
2. Statistics Canada, CANSIM table 379-0029 and U.S. Bureau of Economic Analysis.
3. Support activities for mining, oil and gas extraction.
4. Rising world oil prices likely put upward pressures on wages not only through conventional input-output linkages but also by increasing the outside options of many Canadian workers, thereby potentially increasing their bargaining power in wage setting (Beaudry, Green and Sand 2012).

Chart 1
Union coverage of employees aged 25 to 54, Canada and United States, 2000 to 2017



Note: Percentage of employees who are union members or covered by a collective agreement.
Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

Chart 2
Employment in manufacturing, Canada and United States, 2000 to 2017

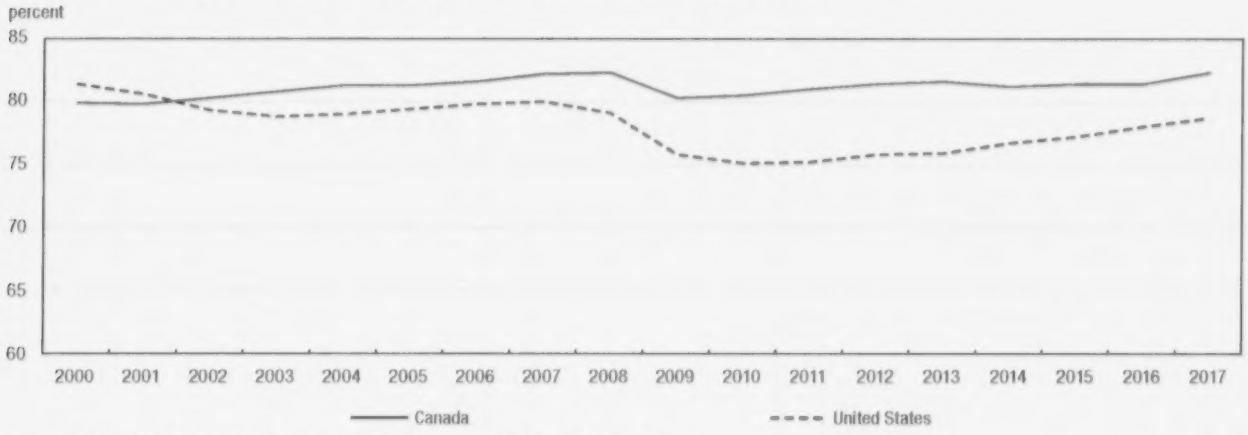


Note: The industries are based on the North American Industry Classification System (NAICS).
Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

Employment rates

From 2000 to 2017, the employment rates of individuals aged 25 to 54 evolved more favourably in Canada than in the United States. During that period, the percentage of individuals employed fell slightly in the United States—dropping from 81% in 2000 to 79% in 2017—but increased by the same amount in Canada, rising from 80% in 2000 to 82% in 2017. This does not simply reflect the fact that the last recession was more severe in the United States. As Chart 3 shows, employment rates were diverging prior to 2008. From 2000 to 2007, employment rates of persons aged 25 to 54 increased by 2 percentage points in Canada but showed no growth in the United States.

Chart 3
Employment rate of persons aged 25 to 54, Canada and United States, 2000 to 2017

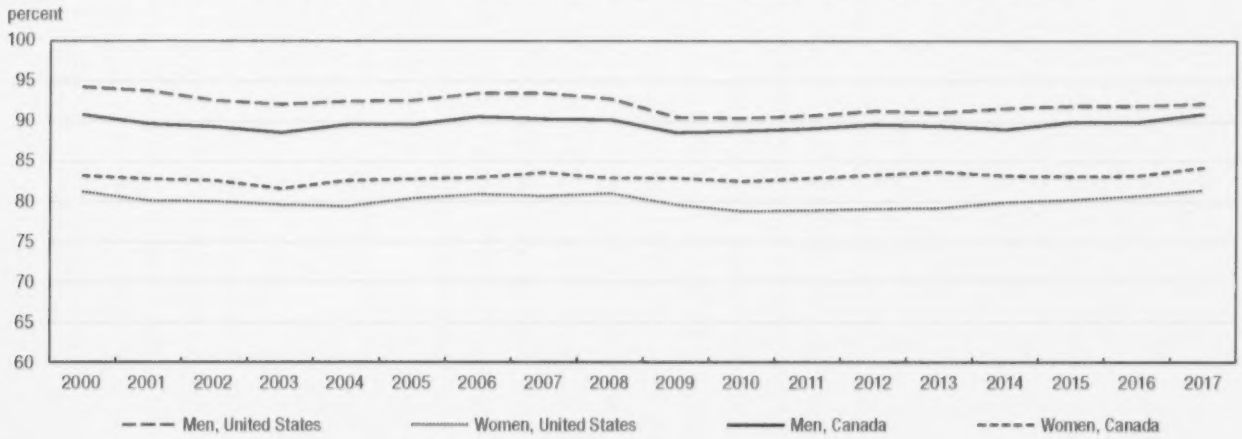


Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

These diverging trends in employment rates were the most pronounced among individuals without a bachelor's degree. For example, employment rates of women with a postsecondary education below a bachelor's degree rose 3 percentage points in Canada but fell 5 percentage points in the United States from 2000 to 2017 (Table 1). Employment rates of women with a high school education or less were about the same in 2000 and 2017 in Canada but dropped by 7 percentage points in the United States during that period. In contrast, employment rates of female bachelor degree holders changed little from 2000 to 2017 in both countries. More favourable changes in employment rates were also observed among Canadian men without a bachelor's degree, especially those with a postsecondary education below a bachelor's degree. Hence, while employment rates evolved in a fairly similar fashion in both countries for bachelors' degree holders (Chart 4), they followed different trajectories for individuals without a bachelor's degree (Chart 5).

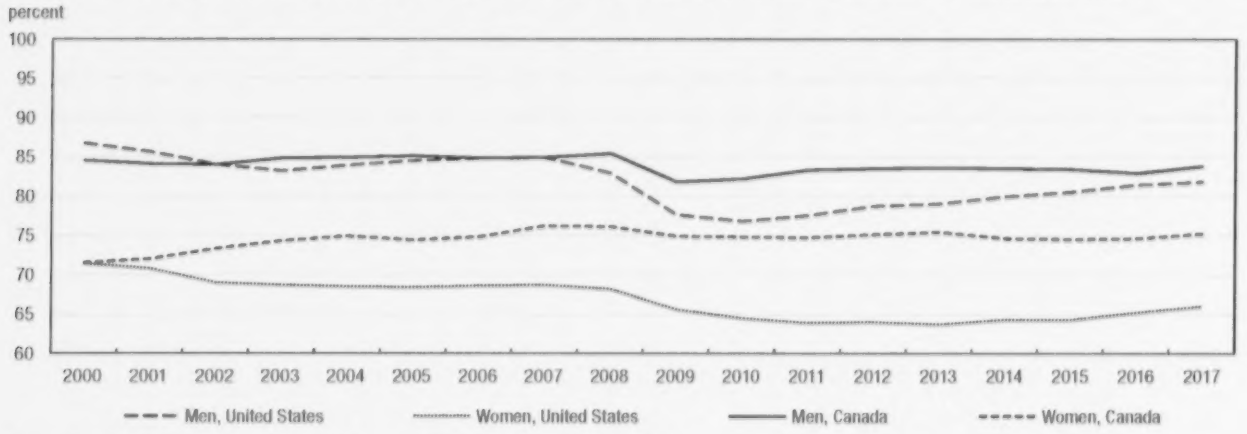
What accounts for these different trends among individuals without a bachelor's degree? Charts 6 and 7 provide descriptive evidence on this question for male workers. Chart 6 shows that the share of Canadian men without a bachelor's degree employed in manufacturing declined substantially from 2000 to 2017, but that the share employed in construction rose significantly over the same period. As a result, the percentage of Canadian men aged 25 to 54 without a bachelor's degree who were employed in either manufacturing or construction fell only slightly.

Chart 4
Employment rate of persons aged 25 to 54 with a bachelor's degree, by sex, Canada and United States, 2000 to 2017



Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

Chart 5
Employment rate of persons aged 25 to 54 without a bachelor's degree, by sex, Canada and United States, 2000 to 2017



Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

Table 1
Employment rate of individuals aged 25 to 54, by sex and education level, Canada and the United States, selected years

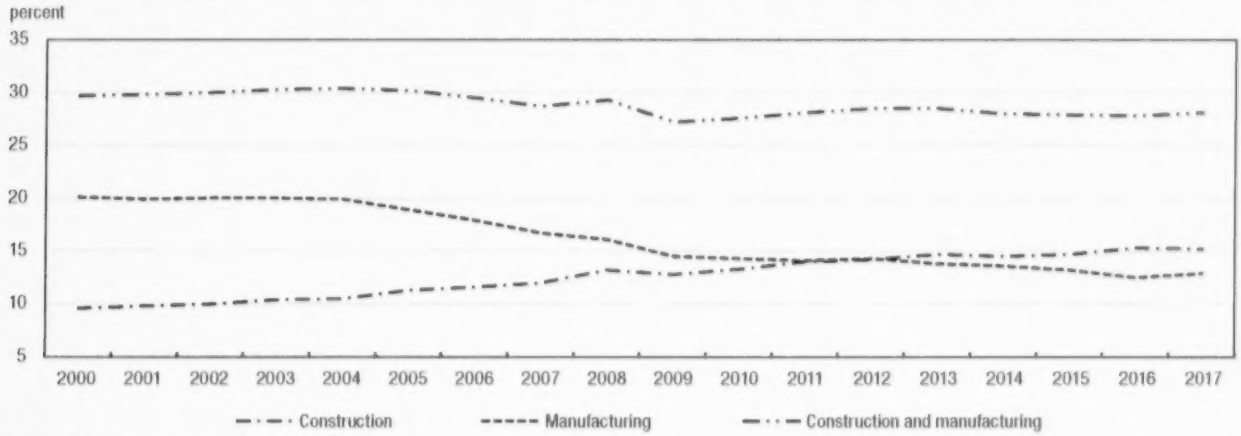
	Men		Women	
Education level and year	**Canada**	**United States**	**Canada**	**United States**
		percent		
High school education or less				
2000	80.3	84.6	64.2	66.7
2007	80.6	82.7	68.3	63.2
2011	78.4	74.8	65.4	58.0
2017	78.3	79.4	64.3	59.3
		percentage points		
Change				
2000 to 2007	0.3	-1.9	4.1	-3.5
2007 to 2011	-2.1	-7.9	-2.9	-5.2
2011 to 2017	-0.1	4.6	-1.0	1.3
2000 to 2017	-1.9	-5.2	0.2	-7.4
		percent		
Postsecondary education below bachelor's degree				
2000	88.2	90.3	78.0	78.2
2007	88.2	88.6	81.6	76.0
2011	86.8	81.9	80.4	71.2
2017	87.4	85.5	81.1	73.5
		percentage points		
Change				
2000 to 2007	-0.1	-1.6	3.6	-2.1
2007 to 2011	-1.4	-6.8	-1.2	-4.9
2011 to 2017	0.7	3.6	0.7	2.4
2000 to 2017	-0.8	-4.8	3.0	-4.6
		percent		
Bachelor's degree				
2000	90.8	94.3	83.2	81.2
2007	90.3	93.5	83.6	80.7
2011	89.1	90.7	82.9	78.9
2017	90.9	92.2	84.2	81.4
		percentage points		
Change				
2000 to 2007	-0.4	-0.8	0.4	-0.5
2007 to 2011	-1.2	-2.8	-0.7	-1.8
2011 to 2017	1.8	1.5	1.3	2.5
2000 to 2017	0.2	-2.1	1.0	0.2

Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

This was not the case in the United States. While the share of men employed in manufacturing declined quite steadily from 2000 to 2017, the construction sector did not play an offsetting role. After rising from 2000 to 2007, the share of American men employed in construction fell through the 2007-2009 U.S. recession and by 2017 had only recovered to levels last observed in 2000 (Chart 7). Overall, the share of American men aged 25 to 54 without a bachelor's degree who were employed in either manufacturing or construction fell from about one-third in 2000 to about one-quarter in 2017.[5]

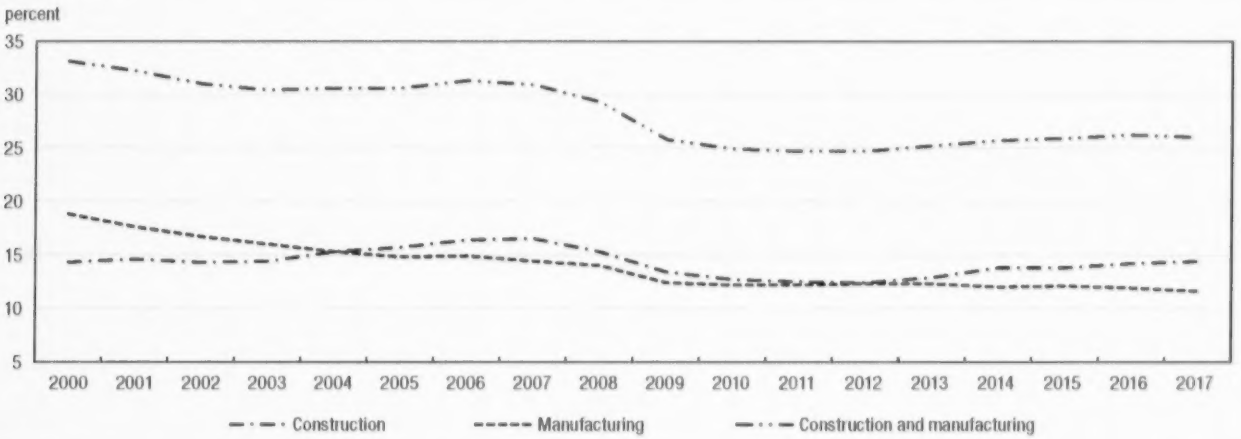
The different trends in the share of less educated men employed in construction resulted from the different employment trajectories observed in the two countries in this sector. While employment in construction increased 75% in Canada from 2000 to 2017, it was, by 2017, only 9% higher than in 2000 in the United States (Chart 8).

Chart 6
Percentage of men aged 25 to 54 without a bachelor's degree employed in construction and manufacturing, Canada, 2000 to 2017



Note: The industries are based on the North American Industry Classification System (NAICS).
Source: Statistics Canada, Labour Force Survey.

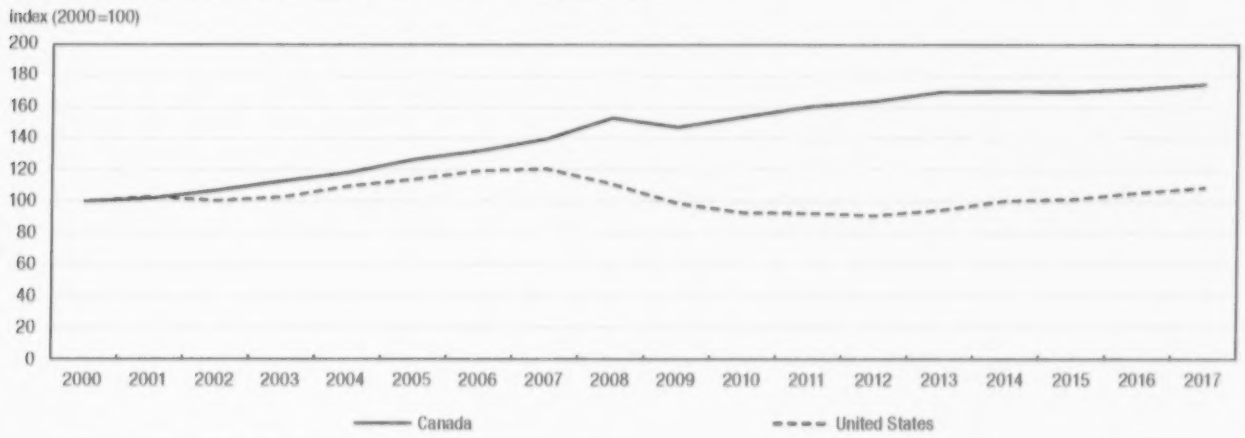
Chart 7
Percentage of men aged 25 to 54 without a bachelor's degree employed in construction and manufacturing, United States, 2000 to 2017



Note: The industries are based on the North American Industry Classification System (NAICS).
Source: U.S. Bureau of Labor Statistics, Current Population Survey.

5. Charles, Hurst and Notowidigdo (2016) show that the drop in the employment rate of American men without a university degree was mainly driven by the long-term decline in manufacturing employment. This decline was partially offset until 2007 by increases in the construction industry attributable to the significant growth in the U.S. real estate market.

Chart 8
Employment in construction, Canada and United States, 2000 to 2017



Note: The industries are based on the North American Industry Classification System (NAICS).
Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

Overall, Charts 6 and 7 suggest that differential movements in the shares of men employed in construction in Canada and the U.S. contributed to the divergence of male employment rates in the two countries. Table 2 provides further evidence on this question. It shows that the employment rates of Canadian and American men without a bachelor's degree fell by 0.7 and 5.0 percentage points, respectively, from 2000 to 2017. The 4.2-percentage-point difference in employment rate changes is entirely accounted for by divergences in the shares of men employed in construction. While the share of Canadian men employed in construction increased by 5.6 percentage points, the share of American men rose marginally (0.1 percentage points).

The larger increase in the share of men employed in mining and oil and gas extraction observed in Canada—0.8 percentage point, compared with 0.2 percentage point in the Unites States—accounts for 12%[6] of the difference in the overall change in the employment rate of men. Consistent with Chart 2, differential movements in the shares of men employed in manufacturing did not contribute to the divergence in employment rates, as the share of men employed in manufacturing fell no more in the United States than it did in Canada.

Table 2 also sheds light on the different trends in employment rates observed among Canadian and American women without a bachelor's degree. Employment rates increased by 3.8 percentage points among Canadian women while they declined by 5.4 percentage points among their American counterparts. Of the 9.2-percentage-point difference in the overall change in the employment rate of women, 3.9 percentage points—or 42%—is attributable to a larger increase in the share of Canadian women employed in educational services, health care and social assistance. Another 11% is accounted for by the larger decline in the share of American women employed in manufacturing.

It is important to emphasize that the numbers shown in Table 2 result from an accounting exercise. They do not take into consideration spillover effects, such as the extent to which higher employment of Canadian men in construction was driven by economic activity generated by the oil and gas sector. Hence, the causal impact of mining, oil and gas extraction on employment rate movements among men is likely to be greater than the 12% reported above.

The results presented so far reflect national averages and mask potentially important regional variation. As Table 3 shows, employment rate movements in Canada were not uniform across provinces. While employment rates of Canadian men without a bachelor's degree fell by 0.7 percentage point from 2000 to 2017 nationwide, they fell by about 4 percentage points in Ontario and Alberta but rose slightly in Newfoundland and Labrador, Prince-Edward-Island, New Brunswick, Quebec and British Columbia. Likewise, employment rates of Canadian women with no bachelor's degree increased by 3.8 percentage points from 2000 to 2017 nationwide, rose by about 12 percentage points in Quebec as well as Newfoundland and Labrador but showed no growth in Ontario, Manitoba, Saskatchewan and Alberta.

Movements in employment rates were more uniform across the United States. Regardless of the region considered, employment rates of men without a bachelor's degree fell by between 4 and 6 percentage points from 2000 to 2017 (Table 4). The employment rates of their female counterparts dropped by between 3 and 7 percentage points during that period.

6. The 12% figure is obtained by dividing 0.5 percentage point by the 4.2-percentage-point difference in employment rate movements.

Given the importance of workers without a bachelor's degree in explaining the overall differences in long-term trends in employment rates between Canada and the United States, a visual summary of Canada-U.S. differences in employment and wages for workers without a bachelor's degree has been prepared. The infographic "A Canada-U.S. Comparison of Employment and Wages" is available in *Statistics Canada — Infographics* (11-627-M (http://www.statcan.gc.ca/pub/11-627-m/11-627-m2018013-eng.htm).

Table 2
Changes in employment shares of men and women aged 25 to 54, without a bachelor's degree, by industry, Canada and United States, 2000 to 2017

	Men			Women		
	Change between 2000 and 2017			Change between 2000 and 2017		
	Canada	United States	Difference	Canada	United States	Difference
	percentage points					
Changes in employment shares						
Agriculture, forestry, fishing and hunting	-1.5	-0.3	1.2	-0.6	-0.1	0.5
Mining, quarrying and oil and gas extraction	0.8	0.2	-0.5	0.1	0.0	-0.1
Construction	5.6	0.1	-5.5	0.8	-0.3	-1.1
Manufacturing	-7.2	-7.2	-0.1	-3.0	-4.0	-1.0
Wholesale trade and retail trade	-0.2	-0.8	-0.6	0.2	-1.2	-1.5
Finance, insurance and real estate	0.1	0.1	0.0	-0.8	-1.2	-0.4
Educational services, health care and social assistance	0.2	0.6	0.4	4.8	1.0	-3.9
Accommodation and food services	1.0	1.3	0.3	1.0	1.4	0.5
Public administration	-0.4	-0.1	0.3	-0.1	-0.7	-0.6
Other services	0.9	1.2	0.3	1.2	-0.4	-1.6
Changes in employment rate	**-0.7**	**-5.0**	**-4.2**	**3.8**	**-5.4**	**-9.2**

Note: The industries are based on the North American Industry Classification System (NAICS). Numbers may not add up due to rounding.
Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

Table 3
Employment rate of individuals aged 25 to 54, with no bachelor's degree, by province, Canada, selected years

	2000	2007	2011	2017	Change 2000 to 2017
	percent				percentage points
Men					
Newfoundland-and-Labrador	66.4	70.0	72.4	67.5	1.0
Prince-Edward-Island	77.6	79.2	77.2	79.3	1.7
Nova Scotia	78.3	79.5	79.1	77.6	-0.7
New Brunswick	76.4	78.5	78.5	78.5	2.1
Québec	81.4	82.1	82.0	84.5	3.1
Ontario	87.2	84.5	82.8	82.9	-4.3
Manitoba	88.6	89.3	87.9	86.2	-2.5
Saskatchewan	87.7	90.3	89.2	85.4	-2.3
Alberta	89.7	92.0	88.6	86.0	-3.7
British Columbia	83.0	87.0	82.6	86.1	3.1
All provinces	**84.5**	**84.9**	**83.3**	**83.8**	**-0.7**
Women					
Newfoundland-and-Labrador	56.2	65.0	68.2	68.9	12.7
Prince-Edward-Island	72.9	76.6	76.9	74.4	1.6
Nova Scotia	66.9	73.9	74.8	75.8	8.9
New Brunswick	66.6	74.5	73.9	76.0	9.4
Québec	67.9	76.4	76.7	79.8	11.9
Ontario	73.4	76.4	73.7	73.0	-0.4
Manitoba	77.1	78.2	76.8	75.4	-1.6
Saskatchewan	77.0	80.1	77.4	75.7	-1.2
Alberta	76.0	78.1	75.7	73.2	-2.8
British Columbia	70.8	74.8	73.2	76.3	5.5
All provinces	**71.5**	**76.2**	**74.7**	**75.2**	**3.8**

Source: Statistics Canada, Labour Force Survey.

Table 4
Employment rate of individuals aged 25 to 54, with no bachelor's degree, by region, United States, selected years

	2000	2007	2011	2017	Change 2000 to 2017
		percent			percentage points
Men					
New England	87.6	84.4	77.8	83.5	-4.1
Middle Atlantic	84.7	83.4	77.3	79.7	-5.0
East North Central	87.4	83.7	76.6	81.1	-6.3
West North Central	88.9	86.3	81.1	85.0	-3.9
South Atlantic	87.4	85.4	76.2	81.6	-5.9
South Central	85.8	84.6	78.9	81.1	-4.7
Mountain	88.9	87.6	77.7	84.7	-4.2
Pacific	85.9	85.2	76.6	81.8	-4.1
All regions	**86.7**	**84.9**	**77.5**	**81.8**	**-5.0**
Women					
New England	76.4	72.5	69.3	70.2	-6.2
Middle Atlantic	68.9	68.0	63.5	65.5	-3.4
East North Central	73.8	70.4	65.0	67.7	-6.2
West North Central	79.5	77.1	73.6	74.4	-5.1
South Atlantic	73.2	70.5	65.1	66.0	-7.3
South Central	68.6	65.1	60.7	63.4	-5.2
Mountain	70.8	69.5	63.7	65.5	-5.3
Pacific	67.6	65.0	60.5	63.9	-3.7
All regions	**71.4**	**68.7**	**63.9**	**66.0**	**-5.4**

Source: U.S. Bureau of Labor Statistics, Current Population Survey.

Table 5
Growth in real median hourly wages, employees aged 25 to 54, by sex and education, Canada and the United States, 2000 to 2017

	Canada	United States	United States to Canada difference
		percent	percentage points
Men			
High school education or less	0.7	-6.4	-7.1
Post-secondary education below bachelor's degree	5.8	-9.4	-15.2
Bachelor's degree	3.5	2.0	-1.5
All education levels	**7.4**	**-1.7**	**-9.1**
Women			
High school education or less	6.8	-0.7	-7.5
Post-secondary education below bachelor's degree	7.2	-7.1	-14.3
Bachelor's degree	7.5	-0.1	-7.6
All education levels	**13.8**	**5.3**	**-8.5**

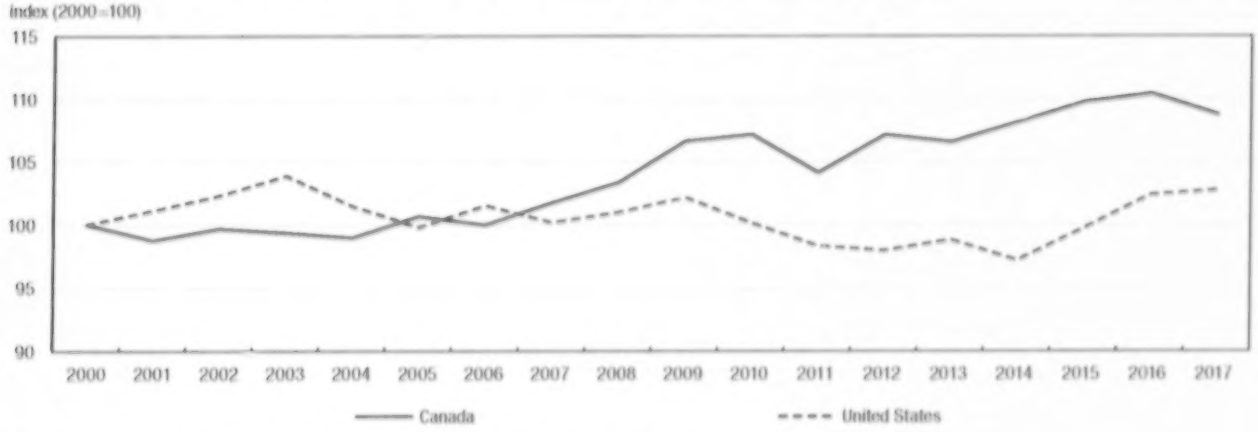
Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

Wages

The more favourable labour market trends observed in Canada were not limited to employment rates. From 2000 to 2017, real median hourly wages of employees aged 25 to 54 increased by about 9% in Canada compared to 3% in the United States (Chart 9).

Stronger wage growth was observed in Canada for men and women of all education levels. The Canada-U.S. difference in wage growth was especially pronounced among male and female employees with a postsecondary education below a bachelor's degree (for example, those with a college diploma or a university certificate below bachelor's degree): it amounted to roughly 15 percentage points (Table 5). In contrast, real wage growth among Canadian male bachelor degree holders was only 2 percentage points higher than that of their U.S. counterparts.

Chart 9
Real median hourly wages of employees aged 25 to 54, Canada and United States, 2000 to 2017



Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labour Statistics, Current Population Survey.

Among male and female employees without a bachelor's degree, real wage growth was generally stronger in Canada than in the United States in all industries.[7] The cross-country difference in wage growth amounted to 15 percentage points or more in three sectors: construction, mining, oil and gas extraction, and public administration (Table 6). In contrast, it amounted to only 2 percentage points for men employed in manufacturing.

As was the case for employment rate movements, wage changes were less uniform in Canada than in the United States. For example, real median hourly wages of men with no bachelor's degree grew 23% or more in the three oil-producing provinces of Alberta, Saskatchewan and Newfoundland and Labrador but increased by only 2% in Ontario (Table 7). In contrast, real median hourly wages of American male workers with no bachelor's degree fell by between 2% and 10%, depending on the region considered.

Table 6
Growth in real median hourly wages of men and women aged 25 to 54, without a bachelor's degree, by industry, Canada and United States, 2000 to 2017

	Men		Women	
	Canada	United States	Canada	United States
	percent			
Industry				
Agriculture, forestry, fishing and hunting	2.5	13.7	17.3	3.0
Mining, quarrying and oil and gas extraction	26.4	4.4	25.9	-1.1
Construction	15.6	-2.2	20.3	5.3
Manufacturing	-2.2	-4.0	10.2	0.6
Wholesale trade and retail trade	2.9	-6.4	18.7	1.4
Finance, insurance and real estate	4.2	-3.6	16.2	1.9
Educational services, health care and social assistance	9.3	-1.6	10.0	2.2
Accommodation and food services	10.6	2.1	20.6	7.5
Public administration	18.4	-5.1	17.7	-7.1
Other services	2.8	-8.9	7.2	-4.0
All industries	**4.2**	**-5.5**	**9.3**	**1.1**

Note: The industries are based on the North American Industry Classification System (NAICS).
Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

7. The only exception is found among men employed in agriculture, forestry, fishing, and hunting. For this group, real median hourly wages grew less in Canada than in the United States.

Table 7
Growth in real median hourly wages of men and women aged 25 to 54, without a bachelor's degree, by region, Canada and United States, 2000 to 2017

	Men	Women
	percent	
Canada		
Newfoundland and Labrador	29.7	35.1
Prince Edward Island	18.5	20.9
Nova Scotia	8.6	19.4
New Brunswick	1.9	19.8
Québec	7.9	14.3
Ontario	1.7	1.9
Manitoba	9.8	21.9
Saskatchewan	23.4	28.5
Alberta	26.1	28.8
British Columbia	-1.2	2.5
All provinces	**4.2**	**9.3**
United States		
New England	-4.7	-4.3
Middle Atlantic	-8.2	-3.6
East North Central	-9.7	-3.1
West North Central	-7.2	1.5
South Atlantic	-5.1	-1.7
South Central	-1.7	3.6
Mountain	-4.8	3.4
Pacific	-6.4	-3.8
All regions	**-5.5**	**1.1**

Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

Conclusion

The Canadian and U.S. labour markets have experienced a number of economic shocks since the early 2000s. The magnitude of some of these shocks has differed across the two countries, particularly with respect to the relatively larger negative adjustments in the U.S. housing market and construction industry, together with the positive impact of the resource sector in Canada.

As a result, this article shows that among individuals aged 25 to 54, both real wages and employment rates evolved more favourably in Canada than in the United States from 2000 to 2017. This largely reflects differing trends among workers without a bachelor's degree in the two countries over this period.

The more favourable wage and employment rate movements observed in Canada at the national level mask important regional differences. For example, men without a bachelor's degree residing in Ontario experienced declines in employment rates that were similar to those of their counterparts in many U.S. regions.

The factors that underlie the cross-country differences in these trends remain to be identified. Given the similarity and proximity of the two economies, labour-saving technological changes are unlikely to account for a substantial portion of these cross-country differences. Because the drop in manufacturing employment was—in percentage terms—roughly the same in both countries, it is also unlikely to explain much of these differences. Neither is the slight decline in unionization rate observed in both countries over the 2000-to-2017 period. Whether cross-country differences in the trajectories of real minimum wages, if any, played a role is currently unknown. Likewise, the degree to which the different magnitudes of the shocks experienced in the construction and resource sectors explain these cross-country differences has yet to be determined.

Appendix

Data sources

This article is based on data from Statistics Canada's Labour Force Survey (LFS) and from the U.S. Bureau of Labor Statistics' Current Population Survey (CPS).

The LFS and CPS are monthly household surveys. Their main purpose is to provide information on recent trends in employment and unemployment (Bender 2016; Bernard and Usalcas 2014). The monthly sample of the LFS is approximately 56,000 households, while that of the CPS is about 60,000 households. The monthly microdata for the 2000-to-2017 period were used to produce the annual data shown in this article.

The two surveys are mostly similar. There are minor conceptual differences between them, but most are related to the classification of respondents as either unemployed or out of the labour force. These differences are therefore unlikely to have an impact on an analysis of employment and wages.

Both the LFS and the CPS are panel surveys. In the LFS, households remain in the sample for a period of six months. In the CPS, households are sampled for an initial four months, excluded for a further eight months, and then return to the sample for another four months.

In the CPS, the questions on wages earned during the reference week are asked only at the end of each of the two periods when respondents are in the sample. The data files containing the information about these households when they leave the panel are called the 'outgoing rotation group' (ORG) files. These are the files used in this study. Lemieux (2006) shows that the wage information contained in these files is more reliable than that produced by CPS supplements conducted annually in March. These supplements also contain questions about the earnings and wages of respondents, but the questions pertain to the past year rather than the reference week.

Since wages are not disclosed beyond a certain value in the available ORG files, it is not possible to perform an analysis based on average wages. For this reason, median wages are used to document wage movements.

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